INDEX TO SUBJECTS.

ADAPTATION to the business..46, 194

ADULTERATION.....28, 29, 36, 90, 391
of honey—how to prevent it..8, 125
how to detect it.....210, 394
harmless (?) 104
sent to England.....29, 133
California law 64
Kentucky law 232
crystal honey fraud..... 66
of table syrups.....28, 127
of sweets.....275, 317, 352, 429
petition to Congress against. 200, 211, 394, 397, 408, 429

AFRICA—the Bee Journal in.... 178

ANTS—how to get rid of..... 298

APIARY—how to start..... 447
Cook's Manual for the..66, 138, 174, 271, 283, 295
Italianizing.....151, 282, 353, 401
keeping record of 158
Neighbour's work on..... 29
Report of Michigan College .. 77
Dr. W. W. Hipolite's..... 255
J. Oatman & Son's..... 312
T. S. Bull's 312
George Grimm's, damage to... 289
several in Henry Co., O..... 350
J. H. Nellis' 351
D. D. Palmer's..... 351
E. C. Jordan's..... 255
C. E. Sweetzer's 367
robbery of the Journal's..... 406

APHIDES, or plant lice..... 307

APIS DORSATA— 15, 18, 39, 46, 58, 96, 414, 417

ARSENIC, used in making sugar. 8

ATOMIZER, for spraying bees... 212

AUGUST—seasonable hints for.. 258

BARRELS—for shipping honey.8, 232
coating with wax 37, 323
McMaster's compound for.... 215

BARON VON BERLEPSCH.....95, 108

BEE CULTURE, for ladies..... 142
new work on 324, 412
college class on..... 216
rise and progress of..... 379
science necessary in 86, 438

BEE ENEMIES 95, 316, 343
brimstone pits in France 95
parisites 65, 165
rats and mice..... 217

BEE FEEDERS....141, 146, 250, 264, 331

BEE HOUSES.....9, 21, 28, 203
ventilation of..... 123
how to get bees out of..... 420

BEE JOURNAL—abroad 330
review of a year's work 411
appreciated..9, 10, 54, 97, 134, 146, 147, 208, 236, 242, 244, 278, 282, 284, 295, 321, 323, 361, 372, 402, 439

BEE POISON—use for medicine. 13
tea made of..... 313

BEE STINGS—how prevented.21, 331
cure for rheumatism.....218, 258
horses killed by.....178, 253, 354
remedies for.....271, 364, 402
protection from 46
are lost when used..... 264

BEGINNERS, hints to..... 437
experiences of..51, 155, 272, 322, 437
botany for 7

BEE KEEPING—in Minnesota..42, 161
Southern Wisconsin..... 213
Canada 216
Colorado.....217, 257
Western Michigan 180
Northern Michigan..... 239
Australia..... 270
England and Wales..... 292
Tennessee 69
Alabama 306
California 433
Texas..... 157
Louisiana 383
Russia and Greece..... 374
ladies engaged in..... 354
superstitions of the past..... 330
secrets of success.....14, 91, 133
a national industry..... 11
as an avocation.....42, 400
requires science 75, 95, 370
on roofs in cities..... 173
ladies' bee dress..... 50
a source of wealth.....229, 296
interesting facts..... 377

BEE PASTURAGE..83, 205, 267, 387, 401
in the South 267, 421
European seeds for..... 137
will it pay to cultivate ?..... 89
interesting report on all plants 80
discussion on 395
description of asters 373, 415
alfalfa..... 205
aspen..... 431
alsike clover 323, 373, 431
basswood 12, 307, 432
boneset 150, 339
buckwheat 205
buffalo clover..... 218
catnip 64
cleome.....137, 182
cherry laurel..... 220
figwort..... 154
furze 154, 188
golden rods.....329, 373
Judas tree..... 163
lion's ears..... 415
melilot clover 102, 179, 284
mignonette 26, 47, 55
motherwort 310, 422
mountain mint..... 384
Norway maple.....28, 126
ox-eye daisy 416
partridge pea.....321, 373
peach..... 137
poplar 12
red clover 205, 431
sourwood 253
teasel.....5, 10, 131, 179, 213
tulip 12
varnish tree..... 243
white clover 12
willows 151, 322
wild grape..... 218
wild onion..... 310
wood sage..... 283

BEES—by mail.....7, 29, 294
swarming in winter 27
is handling injurious ? 21
are they profitable ?..... 266
beseige a city 347
with wasp-like bodies..... 374
races in Africa and Asia..... 396
best time to handle 438
anger of 286
bag-pipe species..... 40
bibulous species..... 74
without hives, in open air..... 96
curious hiving of 294
in Scott county, Iowa..... 159
gathering honey from cider... 167
leaving their hives and queens 182
marking their locations..... 416
brush for use on combs..... 141
eaten by frogs..... 217

BEES—*continued.*
do they injure fruit ?..... 49
battle with geese..... 339
grasshoppers, dialogue with... 256
Hannemann's sieve for..... 271
improving the race..153, 265, 305 400, 433
working on buckwheat..... 22
queens reproducing..... 278
Italians—activity of..... 38
purity of queen...10, 151, 316, 427, 430
workers.....150, 316, 427, 439
sent to Java..... 40
desirable 169, 438
first importation of ..186, 396, 434
vs. blacks..27, 113, 116, 189, 199, 275, 308, 361, 436
bright or dark..... 265
in Australia..... 269
a plea for..... 274
with beauty-spots..... 289
merits of 437
eating larva (?) 147
new races of..... 14
overstocking 49, 56, 88, 342, 398
railroads object to carrying... 96
spring dwindling of..74, 75, 160, 209
and St. Valentine's day..... 33
toads eating bees..... 203
tailor-bee, description of..... 373
transferring 38, 321
catching wild bees.....203, 309
wren as a protector 309
how to subdue..... 420
new work on..... 422
Mrs. Cotton's claims..... 406

BEESWAX used in varnish 37
Peter the Great, statue of..... 37
extensive use of..... 260
largest consumers of 302
ointment for hands and lips .. 320
60 tons sold in Portugal..... 374

BROOD prevented in surplus.... 401
how to get it started early..... 90

CALIFORNIA—honey in.....144, 215
product of 259, 277, 278, 295, 336
the season in..... 256
bee items from 240
bees and hives in Southern ... 183
frames, description of..... 55
objections to..... 26

CANDIED HONEY—
how to liquify. 9, 260
how to market..107, 125, 145, 290, 328
is it a test of purity ?..... 354

COMB FOUNDATION for starters 14
advantageous..22, 23, 116, 169, 277, 298, 402
will bees thin it ? 26
should not be used in surplus honey..14, 87, 92, 93, 94, 245
a success.....79, 298, 319, 323
desirable for brood chamber.. 94
sagging of..... 93
wire used to prevent sagging, 107, 237, 353
made on linen cloth.....104, 419
plaster mould for..... 130
cutter and board for..... 141
how to fasten it 142, 175
how much to use..... 202
dipping board for making 193
paper and thread incorporated 272
not to be called artificial..... 293
flat bottomed cells to 331
in Germany 374, 413
introduced by Mr. Hoge..... 64
Betsinger's experience with.. 393
Dunham machine for making. 433
bright wax sheets for 272
Kretchmer's experience with. 427

INDEX TO SUBJECTS.

ADAPTATION to the business..46, 194

ADULTERATION.....28, 29, 36, 90, 391
of honey—how to prevent it..8, 125
how to detect it.....210, 394
harmless (?) 104
sent to England.....29, 133
California law 64
Kentucky law 232
crystal honey fraud..... 66
of table syrups.....28, 127
of sweets.....275, 317, 352, 429
petition to Congress against. 200, 211, 394, 397, 408, 429

AFRICA—the Bee Journal in.... 178

ANTS—how to get rid of..... 298

APIARY—how to start..... 447
Cook's Manual for the..66, 138, 174, 271, 283, 295
Italianizing.....151, 282, 353, 401
keeping record of 158
Neighbour's work on..... 29
Report of Michigan College .. 77
Dr. W. W. Hipolite's..... 255
J. Oatman & Son's..... 312
T. S. Bull's 312
George Grimm's, damage to... 289
several in Henry Co., O..... 350
J. H. Nellis' 351
D. D. Palmer's..... 351
E. C. Jordan's..... 255
C. E. Sweetzer's 367
robbery of the Journal's..... 406

APHIDES, or plant lice..... 307

APIS DORSATA— 15, 18, 39, 46, 58, 96, 414, 417

ARSENIC, used in making sugar. 8

ATOMIZER, for spraying bees... 212

AUGUST—seasonable hints for.. 258

BARRELS—for shipping honey.8, 232
coating with wax 37, 323
McMaster's compound for.... 215

BARON VON BERLEPSCH.....95, 108

BEE CULTURE, for ladies..... 142
new work on 324, 412
college class on..... 216
rise and progress of..... 379
science necessary in 86, 438

BEE ENEMIES 95, 316, 343
brimstone pits in France 95
parisites 65, 165
rats and mice..... 217

BEE FEEDERS....141, 146, 250, 264, 331

BEE HOUSES.....9, 21, 28, 203
ventilation of..... 123
how to get bees out of..... 420

BEE JOURNAL—abroad 330
review of a year's work 411
appreciated..9, 10, 54, 97, 134, 146, 147, 208, 236, 242, 244, 278, 282, 284, 295, 321, 323, 361, 372, 402, 439

BEE POISON—use for medicine. 13
tea made of..... 313

BEE STINGS—how prevented.21, 331
cure for rheumatism.....218, 258
horses killed by.....178, 253, 354
remedies for.....271, 364, 402
protection from 46
are lost when used..... 264

BEGINNERS, hints to..... 437
experiences of..51, 155, 272, 322, 437
botany for 7

BEE KEEPING—in Minnesota..42, 161
Southern Wisconsin..... 213
Canada 216
Colorado.....217, 257
Western Michigan 180
Northern Michigan..... 239
Australia..... 270
England and Wales..... 292
Tennessee 69
Alabama 306
California 433
Texas..... 157
Louisiana 383
Russia and Greece..... 374
ladies engaged in..... 354
superstitions of the past..... 330
secrets of success.....14, 91, 133
a national industry..... 11
as an avocation.....42, 400
requires science 75, 95, 370
on roofs in cities..... 173
ladies' bee dress..... 50
a source of wealth.....229, 296
interesting facts..... 377

BEE PASTURAGE..83, 205, 267, 387, 401
in the South 267, 421
European seeds for..... 137
will it pay to cultivate ?..... 89
interesting report on all plants 80
discussion on 395
description of asters 373, 415
alfalfa..... 205
aspen..... 431
alsike clover 323, 373, 431
basswood 12, 307, 432
boneset 150, 339
buckwheat 205
buffalo clover..... 218
catnip 64
cleome.....137, 182
cherry laurel..... 220
figwort..... 154
furze 154, 188
golden rods.....329, 373
Judas tree..... 163
lion's ears..... 415
melilot clover 102, 179, 284
mignonette 26, 47, 55
motherwort 310, 422
mountain mint..... 384
Norway maple.....28, 126
ox-eye daisy 416
partridge pea.....321, 373
peach..... 137
poplar 12
red clover 205, 431
sourwood 253
teasel.....5, 10, 131, 179, 213
tulip 12
varnish tree..... 243
white clover 12
willows 151, 322
wild grape..... 218
wild onion..... 310
wood sage..... 283

BEES—by mail.....7, 29, 294
swarming in winter 27
is handling injurious ? 21
are they profitable ?..... 266
beseige a city 347
with wasp-like bodies..... 374
races in Africa and Asia..... 396
best time to handle 438
anger of 286
bag-pipe species..... 40
bibulous species..... 74
without hives, in open air..... 96
curious hiving of 294
in Scott county, Iowa..... 159
gathering honey from cider... 167
leaving their hives and queens 182
marking their locations..... 416
brush for use on combs..... 141
eaten by frogs..... 217

BEES—*continued.*
do they injure fruit ?..... 49
battle with geese..... 339
grasshoppers, dialogue with... 256
Hannemann's sieve for..... 271
improving the race..153, 265, 305 400, 433
working on buckwheat..... 22
queens reproducing..... 278
Italians—activity of..... 38
purity of queen...10, 151, 316, 427, 430
workers.....150, 316, 427, 439
sent to Java..... 40
desirable 169, 438
first importation of ..186, 396, 434
vs. blacks..27, 113, 116, 189, 199, 275, 308, 361, 436
bright or dark..... 265
in Australia..... 269
a plea for..... 274
with beauty-spots..... 289
merits of 437
eating larva (?) 147
new races of..... 14
overstocking 49, 56, 88, 342, 398
railroads object to carrying... 96
spring dwindling of..74, 75, 160, 209
and St. Valentine's day..... 33
toads eating bees..... 203
tailor-bee, description of..... 373
transferring 38, 321
catching wild bees.....203, 309
wren as a protector 309
how to subdue..... 420
new work on..... 422
Mrs. Cotton's claims..... 406

BEESWAX used in varnish 37
Peter the Great, statue of..... 37
extensive use of..... 260
largest consumers of 302
ointment for hands and lips .. 320
60 tons sold in Portugal..... 374

BROOD prevented in surplus.... 401
how to get it started early..... 90

CALIFORNIA—honey in.....144, 215
product of 259, 277, 278, 295, 336
the season in..... 256
bee items from 240
bees and hives in Southern ... 183
frames, description of..... 55
objections to..... 26

CANDIED HONEY—
how to liquify. 9, 260
how to market..107, 125, 145, 290, 328
is it a test of purity ?..... 354

COMB FOUNDATION for starters 14
advantageous..22, 23, 116, 169, 277, 298, 402
will bees thin it ? 26
should not be used in surplus honey..14, 87, 92, 93, 94, 245
a success.....79, 298, 319, 323
desirable for brood chamber.. 94
sagging of..... 93
wire used to prevent sagging, 107, 237, 353
made on linen cloth.....104, 419
plaster mould for..... 130
cutter and board for..... 141
how to fasten it 142, 175
how much to use..... 202
dipping board for making 193
paper and thread incorporated 272
not to be called artificial..... 293
flat bottomed cells to 331
in Germany 374, 413
introduced by Mr. Hoge..... 64
Betsinger's experience with.. 393
Dunham machine for making. 433
bright wax sheets for 272
Kretchmer's experience with. 427

CAPPING CELLS, new plan..270, 414

CHAFF from Sweet Home,...347, 418

CHIPS from Sweet Home..46, 81, 123, 155, 193, 225, 233, 261, 315, 351, 418

CERESIN WAX—description of.. 254
not to be used in foundation.. 254

COMB HONEY—
rack and separators..... 239
Dr. Southard's rack 17
rack for Langstroth hive...157, 314
American hive..... 219
Dunham's..... 210
tiering up 239
as made by T. J. Dodds..... 416
must be made attractive..... 26
increasing demand for.....201, 296
management of.....14, 44
should be ripened before marketing.. 45
how put up in California 296

COMBS—wax for fastening 38
production of wax for 23, 103
cost of, in honey consumed... 150
to keep moths out of..... 151
attached to an apple tree..... 369
bees refusing to build..... 415
how to secure straight.....22, 416
preservation of empty 182
moldy combs..... 221
natural for starters.....10, 54

CONVENTIONS—desirable....226, 382
benefits of 92, 199, 362, 377, 407
county associations advisable 279
notices in tabular form..... 335
by-laws of local..... 7
British, and bee show..... 337
Austro-German.....67, 372, 341
North American..142, 252, 291, 318, 373, 377, 407, 432, 433, 440
North-Eastern.....13, 89, 113
W. Ill. and E. Iowa..19, 45, 171, 198
Northern Missouri 23
Michigan.....25, 49, 168, 441
North-Western Ohio....48, 167, 399
San Diego Co., California..... 111
North-Western Illinois 114, 221
Bremer County, Iowa..... 167
Los Angeles Co., Cal.....192, 221
New York City..... 196
Albany Co., N. Y.....197, 400
North-Eastern Wisconsin.198, 320
Southern Kentucky.....203, 367
Central Illinois.....207, 439
Lancaster Co., Penn ..224, 283, 341
Central Kentucky.....226, 320, 401
Kansas 252, 397
South-Western Ohio..... 360
Northern Missouri 398

CORRESPONDENCE—14 to 17, 41 to 47, 70 to 82, 118 to 131, 155 to 164, 183 to 193, 232 to 241, 261 to 281, 307 to 320, 343 to 357, 377 to 401, 419 to 431

CYPRIAN BEES..138, 234, 237, 271, 278, 290
the home of, described....281, 365

DEATH of R. C. Otis..... 233
Dr. J. P. Kirtland 34

DECEMBER—seasonable hints .. 410

DIVISION—of colonies....49, 77, 110, 224, 274
boards 99, 125, 161, 208, 285

DOOLITTLE—Novice answered.. 70
apology of Novice to..... 122
fancy crate in Europe..... 217
regular correspondence 331
report for the season..... 349

DRONES—white-headed 179
importance on progeny..... 18
worker eggs laid in drone cells 220
do not gather honey..... 264
wholesale destruction of 264
light colored..... 376
Brooks' fancy stock..... 273

EXPORTATION—of honey..36, 37, 179, 258, 260, 394, 410
severe handling in transit..... 106
from California to Germany.. 410

EDITORIAL ITEMS—5 to 7, 27 to 34, 63 to 68, 101 to 107, 137 to 145, 173 to 180, 209 to 217, 251 to 259, 289 to 305, 327 to 337, 365 to 372, 405 to 411
notes of travel by editor ..370, 372

EXTRACTED HONEY.....9, 190
in San Domingo 8
management of.....25, 111, 370
produced in California..... 111
how to strain it.....219, 278
increasing demand.....221, 231
unripe if not capped..... 277
not same as strained honey... 304
cans for shipping..... 350

EXTRACTOR—when to use...154, 203
its use in brood-nest..... 161
essential features of..... 169
invention and use of..... 186
Muth's patent on..... 402
different kinds described..139, 140, 177, 257
for wax.....212, 319, 333

FEEDING BEES—in transit..... 258
how to do it in the spring..... 341
for storing in surplus 220

FERTILE WORKERS ...19, 45, 116, 153, 200, 282

FERTILIZATION—attempted in confinement..13, 41, 118, 189, 384, 414
witnessed by Dzierzon..... 40

FLOATING APIARY..101, 136 232, 238, 293, 335, 367
ancient migratory trips 30, 181

FOREIGN NOTES...13 to 18, 39, 40, 95, 96, 108, 181, 182, 269 to 271, 297, 298, 337 to 340, 374, 413, 414

FOUL BROOD.....102, 114, 190, 251, 323
how to cleanse hives..... 146
remedies for.....212, 241, 269

FRAMES—large or small ?..... 278
which way to run..... 175
distance between..... 282
block for making 336
Kretchmer's bearings for..... 234
passage-ways over..... 362
Valentine's stand for 278

GLUCOSE—how manufactured.. 12
unwholesome.....35, 391, 392
honey adulterated with..... 394
unfit for feeding bees ...90, 200 317, 369, 375, 392, 405

GOODS—the cheapest not often best 178

HIVES—which way to face 22
their name is "legion"..... 160
which to adopt..... 170
ventilation of.....219, 222
discussion upon in Germany.. 108
are large or small ones best ?.. 110
measurement of Langstroth's. 427
is shading necessary ?..... 42
sliding bottom boards..... 175
why bees desert them..... 221
rotary, as made in Germany.. 297
an old, old one..... 309
are any moth-proof ?..... 402
entrance regulator 259, 273
apparatus for hiving..6, 64, 139, 178
Langstroth.....139, 232, 333, 427
double Langstroth..... 63
new Langstroth.....177, 333
as made by John Roberts..... 67
A. H. Russell 80, 159
Wm. Thomson..... 140
N. C. Mitchell 152, 130, 145, 319
Novice 130
Wm. Cam 157
E. France..... 184
Oatmans' Modest..... 139
North Star 141, 146, 172
Concord 170, 172
Armstrong's Centennial...209, 332, 333
Hill's winter bee-hive..... 282
suspended on scales 79

HONEY—Is it made or gathered? 342
used in manufacturing 137, 371, 399
cost of production..... 436
sold at hard times prices....71, 73

HONEY—*continued.*
large yields 20, 45, 397
California yield.....67, 111
"hot," how to cure it 172
Cuban and Southern 106, 296
freight charges on.....106, 107
yield per hive..... 120
from golden-rod..... 144
used at Jewish feasts 144
in Switzerland hotels 144
from white clover..... 192
sold on commission..... 213
creating a demand for..28, 52, 129, 327
used in preserving fruit 217
how to separate from wax..... 217
receipts for cooking.....243, 303
fermentation prevented..... 327
season's results.....236, 328, 414
280 lbs. from one hive..... 360
the best always demanded 334
gold medal award..... 36
should always be graded 8
vinegar recipe 10, 297
carrier 7, 35, 106, 141
transportation cans..... 141
jars, corks and labels for 5, 66
knives—Bingham & Hetherington's 252, 290
tin pails and jars 203
cans, sizes and prices of..... 221
future for producers..... 120
Detroit dealers.....52, 158
an unmailable article..... 369
knives unmailable..... 33
store in a dry place 22
supply and demand..... 73
selling and shipping..... 368
sale of tons of..... 370
wonderful cave of 138

HONEY BOXES.....24, 81, 296, 368
what kind to use.....22, 200
how to get bees out.....20, 260, 343
glassed or not.....24, 72, 91, 149, 169
single combs best.....26, 107, 111
not use foundation in..... 87
spaces between..... 149
all in one piece.....176, 368
made all of glass..... 212
queen laying in..... 277
Moore's with cap.....236, 280, 365
large boxes undesirable..... 400
1 lb. sections too small.....25, 371
of forty years ago..... 210

HONEY MARKET—how to establish..... 417

HONEY AND BEE SHOWS....328, 354, 369, 374, 378, 409, 439
British.....292, 294, 338
medals for prizes..... 328
wonderfully attractive 325
why not more general 353
progressive ideas about....366, 431
Winfield's prize "pillar"..... 368

HONEY—as food and medicine.. 105, 129, 170, 176, 207, 208, 235, 293, 378
for dyspepsia, colds, etc....209, 260
its use in cooking.....243, 303
lecture by the editor on..... 176

HOG CHOLERA—cure for..... 42

INCREASE—prevention of....97, 398
best method of 168

ITALY—are black bees there?.124, 162
C. J. Quinby's visit to... 433
S. B. Parsons' visit to..... 396

LANGSTROTH, Rev. L. L., restored to health 409
visit to Prof. Cook..... 405

MARKETING HONEY—8, 26, 34 to 37, 39, 79, 106, 107, 116, 117, 143 to 145, 203, 260, 296
needs personal attention..... 14
co-operation desirable..... 92
should be assorted and labeled 145, 231
small crates sell best.....162, 392
must be attractive 194
sales ruined by inexperienced 14, 37, 41, 109, 117
veneering should be discountenanced.... 144
in Boston, Mass.....37, 145, 296

MARKETING HONEY—*continued.*
encourage and work up local trade....57, 170, 226, 236, 260, 368
in Cleveland, Ohio..... 296
in Great Britain 296
overstocking improbable 12
straw packing injurious..... 408

MELIPONES—an hymenopterous insect.. 252

MOTH WORMS AND MILLERS.. 24, 200, 220, 436

NOVEMBER—seasonable hints.. 366

NOVICE—Encyclopædia.....33, 333
on the war-path.....142, 180, 325
Burch's reply to 163, 192
Winder's reply to 180, 269

OUR LETTER-BOX..9, 10, 13, 54 to 58, 97 to 99, 132 to 134, 145 to 152, 206 to 210, 242 to 245, 282 to 285, 321 to 323, 358 to 362, 402, 403, 431, 432

PAINT—on inside of hives 203

PARIS EXPOSITION 6, 96, 218, 299
honey show 37
directions to exhibitors..... 18
Elwood's honey exhibited..... 106
gold medal award 369

PATENTS—something about 179
why obtained on smokers..... 71
THE JOURNAL not interested in any 172
Quinby hive not patented..... 327

PETRIFIED honey comb.....372, 407

POLLEN—flour of peas..... 95

POSTAL peculiarities....255, 332, 366

PRIZE BOX—description of.6, 28, 313
inventors of 34
should it be glassed ?..... 24
how to use it..... 156
adopted in Oregon 91
case to hold it on hive..157, 234, 313
how *not* made..... 296

PRODUCERS and Consumers—address to..... 394

QUEENS, unmailable..68, 119, 143, 314
rearing.....87, 200, 206, 210, 318
supersede non-layers 218, 220

QUEENS—*continued.*
duplicating themselves 290, 349
laying eggs at will..... 297
purity of.....310, 400
strange freak of virgin..... 321
large, handsome, prolific..... 323
seven in one hive..... 332
selection of best at sight..... 333
introduction of..19, 45, 114, 119, 206
Scovell's cages for 179, 215 259
how to clip their wings..... 10
how to produce good.....86, 399
stung but not killed..... 197
how to know when absent..283, 318
two in one hive.....39, 349
how to keep surplus..... 154
mothers, not rulers 264
sometimes lay before mating.. 264
when cells are started..... 19
when cells may be transferred 45
when cells will not hatch..... 210
returning them to colonies.... 279
impregnation while swarming. 114
untested condemned ...48, 368, 39

REVIEW of a year's work..... 411

RIGHTS of Inventors.....31, 170

ROBBING.....116, 121, 158, 163, 202, 209
drones not robbers..... 219

SAW—hand circular rip.....105, 179
foot-power circular..... 148

SARTORI'S MANUAL in Italian. 289

SEPARATORS—their use ..17, 149, 202

SHIPPING—crates..6, 35, 45, 64, 69, 72
honey to England..... 36
two tiers of boxes..... 36
with top-bar downwards..... 327
goods by express 294

SMOKERS—rights of inventors.. 71, 188
Novice's inferior 31, 64, 148
different kinds described...68, 142, 146, 176, 193, 213, 214, 277, 301, 409
how to operate them..... 256
early invention of..... 186

SOUTHERN NOTES..11 to 13, 38, 39, 69, 109, 110, 152 to 154, 305, 306

STATISTICS..49, 115, 159, 185, 280, 341, 355, 433
lessons from.....328, 419, 420

STANDARD of Purity..177, 212, 216, 220, 252, 268, 273, 311, 314, 323, 345, 347, 348, 350, 354, 378, 395, 399, 430, 433

SWARMING—not induced by the queen..... 16
methods of.....20, 45, 116, 154, 276
how to prevent..22, 90, 133, 166, 185, 192, 200, 398
origin of bell-ringing..... 182
often uncontrollable..... 282
division of colony preferable. 343
preparation of nuclei..... 329

SWARMS—which way they fly... 22
amusing incident..... 76
select a place in advance..... 342
what to do with surplus..... 50
brought down by mirror 143
two issue within two days..... 218
does old queen always go with? 234
returning second swarms..... 277

TIN CORNERS 214

TREMONTANI'S business tact... 255

UNITING COLONIES....19, 45, 154, 221

USEFUL IMPLEMENTS 323

WINTER—moving bees in 49
cleansing flights during..... 76
preparation for...9, 97, 116, 150, 191, 343
time of preparation for..... 221

WINTERING....5, 17, 21, 27, 42, 48, 109, 158, 159
in cellar.....51, 77, 97, 98, 207
Betsinger's plan criticised..... 43
cellars vs. summer stands..... 44
experience with chaff...51, 132, 133
use of quilts in..... 52
in a cave.....54, 77, 151, 168
on summer stands.....75, 321
how to keep quiet in cellar.... 102
in California in 1876-7..... 111
position of honey in brood nest 114
pure honey for food..... 132
in France and Germany 182
use of oat straw in..... 358
H. H. Flick's system of..... 389
Garrett's plan of..... 421

ZELL'S ENCYCLOPÆDIA 261

INDEX TO ILLUSTRATIONS.

Atomizer for spraying bees..... 212
Armstrong's Centennial hive.... 332
Bingham's smoker..... 32
Betsinger's prize box..... 34
Bee showing wax formations ... 103
Bee parasite—the oil beetle..... 65
Block for frame making..... 336
Bingham & Hetherington honey knife..... 290
Case of prize boxes for Langstroth's foundation cutter 141
Case of prize boxes for American hive 156, 314
Comb honey Rack for Langstroth hive 157, 177
Chaff division boards 125
Cotton as a honey plant..... 251
Chateau de l'Insect at Paris 299
Comb honey rack for Centennial hive..... 332
Dodd's comb honey rack 432
Detached sliding bottom-board. 175
Everett's honey extractor 139
Excelsior honey extractor 257
Frame for cutting foundation dation starters..... 141
G. T. Wheeler's sectional boxes. 35
Harbison's California sections.. 55
Heddon's shipping crate..... 72
Hand circular rip-saw..... 105
Hill's wax extractor..... 333
Kretchmer's metal frame bearings 234
Langstroth frame with separators 17
Langstroth frame with 1-lb. sections 18
Lecanium tulipifera 308
McDougal's honey extractor... 140
Motherwort (3 illustrations).310, 311
Moore's sectional boxes and separators 236
Novice's chaff cushion..... 18
stroth hive 28, 313
Novice's bellows bee-smoker.... 31
Novice's queen cage 215
North Star Hive..... 141
New Quinby smoker..... 142
New Langstroth hive 177
Okra as a honey plant..... 251
Oldham's swarm catcher 348
Perfection honey box..... 280
Prize shipping crate..... 45
Porter's shipping cases 125
Plaster of Paris plates for making foundation..... 130
Porter's comb honey rack for tiering up 240
Petrified honey comb..... 407
Quinby's old smoker 32
Sutliff's bee smoker..... 213
Scovell's queen cage..... 215
Sunflower as a honey plant..... 251
Sour-wood leaf and bloom..... 253
Swiss wax extractor..... 312
Shuck's bee feeder..... 331
Stinging bug (8 illustrations.).... 343
Teasel as a honey plant 131
Tulip tree 137
Valentine's queen stand..... 279
White sage of California 2
White's honey extractor 140